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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,441	08/27/2001	Hitoshi Kanazawa	14840	3997

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Scully Scott Murphy & Presser  
400 Garden City Plaza  
Garden City, NY 11530

EXAMINER

BERMAN, SUSAN W

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

mk-5

Office Action Summary

Application No.

09/914,441

Applicant(s)

KANAZAWA, HITOSHI

Examiner

Susan W Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

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*Specification*

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The phrase "modifying polymeric material" is not descriptive of the method of modification or the kinds of material.

The following title is suggested: "Hydrophilic Polymer Treatment of an Activated Polymeric Material and Use Thereof".

*Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 28-59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 28, it is not clear whether the phrase "hydrophilic polymer treatment" refers to a treatment of the "polymeric material" in line 1 with a hydrophilic polymer or to provide a hydrophilic polymer. Claims 29-34, 36-45 are indefinite for the same reasons because they depend from claim 28.

In claim 32, lines 3-4, the phrase "olefins, vinyl compounds except olefins, vinylidene compounds and other compounds having carbon-carbon double bonds" is indefinite because it is not clear what "other compounds having carbon-carbon double bonds" are not already encompassed by "olefins, vinyl compounds except olefins, vinylidene compounds". In claim 32, line 7, it is not clear what is meant by "carbon fiber materials"? Does applicant intend to set forth materials made from carbon fibers or materials containing carbon fibers or some other kind of carbon fiber material? In claim 32, last line, the insertion "(or ramie, jute)" renders the claim indefinite because it is not clear whether applicant intends to claim hemp or to claim ramie or jute.

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In claim 33, the word "sheets" appears twice. It is not clear what is encompassed by the phrase "members or products of molded materials... composite materials with other materials". What are the "members" or "products" of molded materials? What kinds of "composite materials" are suitable? What are the "materials" included with the "composite materials"?

In claim 35, it is suggested that "polyhydroxy ethylmethacrylate" should be rewritten as "poly(hydroxyethyl methacrylate)" in order to clarify the hydrophilic polymer structure intended.

Claims 38, 39, 44 and 45 are indefinite because it is not clear whether applicant intends to recite alternative compounds or mixtures of compounds. The proper language for reciting a Markush Group is "compounds selected from the group consisting of...and...". Alternatively, the claim language said monomer or said compound "is at least one of .... or ....".

Claim 46 is indefinite because each claim includes the phrase "obtained by the improvement method according to claim 1". Claim 1 has been canceled, therefore it is not clear what method is intended. It is noted that there is no antecedent basis in claim 28 for a recitation of an "improvement method". Claims 47-59 are indefinite because they depend from claim 46.

Claim 55 is rendered indefinite by the phrase "improved polymeric materials" because the nature or kind of improvement is not set forth and the term "improved" is a relative term only.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

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- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 46-59 are drawn to polymeric materials obtained by the "improvement method" of claim 1 (the claims are treated herein as if intended to refer to the method of claim 28). The product by process claims are considered to read on prior art products that are produced by a different method wherein the product is reasonably expected to be the same in the absence of evidence to the contrary.

Claims 46-49, 52, 53 and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by JP1248460. J '460 discloses polyolefin fibers whose surfaces are covered with acetalized polyvinyl alcohol and its use as a separator.

Claims 28, 30, 32, 33, 35, 40, 44, 46-51, 53 and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by JP11067183. See the Abstract. The treatment with persulfate would be expected to activate the polyolefin surface and is considered to be an "activation treatment".

Claims 46-51, 53 and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by JP11007937. See the Abstract.

Claims 28, 32-35, 46, 53, 55 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by JP09012752. J '752 discloses applying a corona discharge treatment to a polystyrene sheet and coating the treated sheet with a polymeric material having hydrophilic groups. See the Abstract.

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✕ Claims 28, 32-34, 46, 53, 55 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 09-143884. J '884 discloses a plasma treatment to a synthetic fiber cloth and applying a hydrophilic resin.

^ Claims 46, 48, 49, 50, 53 and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by JP4253231. J '231 discloses a highly functional film comprising a water-soluble vinyl polymer to the surface of polytetrafluoroethylene.

Claims 28, 29, 31, 33, 36, 37, 42, 43, 46, 53, 55 and 56 are rejected under 35 U.S.C. 102(e) as being anticipated by Valint, Jr. et al (6,213,604). Valint, Jr. et al disclose plasma oxidation treatment of a silicone material followed by plasma polymerization of a hydrocarbon monomer to provide a polymeric hydrocarbon layer that is further treated with plasma to render it hydrophilic or treated by attachment of hydrophilic polymer chains. See the Abstract, column 3, lines 38-67, column 4, line 59, to column 5, line 12. The product is a contact lens having a hydrophilic polymeric coating on a silicone base.

Claims 28, 29, 31, 33, 36, 37, 42, 43, 46, 53, 55 and 56 are rejected under 35 U.S.C. 102(e) as being anticipated by Grobe, III et al (6,200,626). Grobe et al disclose plasma oxidation treatment of a silicone material followed by plasma polymerization of a hydrocarbon monomer to provide a polymeric hydrocarbon layer that is further treated with plasma to render it hydrophilic or treated by attachment of hydrophilic polymer chains. See the Abstract, column 3, lines 38-67, column 4, line 59, to column 5, line 12. The product is a contact lens having a hydrophilic polymeric coating on a silicone base.

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Claims 28, 32-34, 46, 53, 55 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by JP4136267. J '267 discloses a process for improving adhesiveness comprising irradiating a polyester yarn with UV pulse laser beam and then treating the yarn with resorcin formalin rubber latex. See the Abstract.

Claims 28, 32-35, 46, 53 and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by JP62019207. J '207 disclose a process for treating a hydrophobic porous film with corona discharge and further treating with a solution of polyol to afford a hydrophilic property to the film.

Claims 28, 32-34, 46, 53, 55 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by JP07-090783. J '783 discloses a process comprising subjecting a polyolefin first to ozone treatment, then graft-polymerization with a vinyl compound under UV irradiation.

Claims 28, 32-35, 46, 48-53, 55, 56 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Young, Sr. et al (5,432,000). Young, Sr. et al disclose a process comprising pretreatment of synthetic or natural fibers by corona discharge or ozone/oxygen bleaching and application of polymeric binders to the fibers. See column 8, line 28, to column 10, line 24, column 13, lines 36-59, column 23, lines 49-52, column 24, lines 21-31 and lines 53-57, column 25 lines 6-11, column 26, lines 1-17.

Claims 28, 29, 32-36, 38, 42, 46, 48, 49, 53, 55 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Janssen (4,678,838). Janssen discloses subjecting poly-N-vinyl lactam to ozone treatment and graft polymerization. The treated polymers are useful in biomedical devices, semipermeable membranes and as films or fibers. See column 3, lines 25-37, column 4, line 3, to column 7, line 14.

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Claims 28, 29, 32-36, 38, 40-42, and 46-59 are rejected under 35 U.S.C. 102(b) as anticipated by Zhang et al (5,889,073). Zhang et al disclose a process comprising irradiating a polymeric surface with actinic rays while in contact with a hydrophilic liquid under conditions so that the hydrophilic vinyl monomer is photopolymerized only at the surface of the material. See column 1, lines 4-16.

With respect to the product claims included in the rejections set forth above, the burden is hereby shifted to applicant to establish by effective argument and/or objective evidence that the prior art product(s) or process(es) do not necessarily possess the characteristics of the claimed products or processes. Note In re Spada, 911 F. 2d 705, 709, 15 UPQ2d 1655, 1658 (Fed. Cir. 1990): "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not". Note In re Best, 562 F. 2d 775, 195 USPQ 433 (CCPA 1977): "Therefore, the *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product". Note In re Fitzgerald, 205 USPQ 594 (CCPA 1980): The reference discloses all the limitations of the claim(s) except a property or function and the examiner cannot determine whether or not the reference inherently possesses properties or functions which anticipate the claimed invention. See MPEP 2112-2112.02. Note In re Marosi, 710 F 2d 799, 218 USPQ 289 (Fed. Cir. 1983) and In re Thorpe, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985): The reference teaches a product that appears to be the same as the product set forth in the product by process claims, although produced by a different process. See MPEP 2113.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Banford et al (5,453,467) disclose polymer treatments comprising surface treating the polymer and monomer grafting to provide biocompatible materials, biomedical devices and blood-containing



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devices. Anders et al (5,871,823) disclose a process of radiation grafting of a hydrophilic vinyl monomer on an activated substrate surface. See column 5, line 54, to column 7, line 63.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 703 308 0040. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703 308 2462.

The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9310 for regular communications and 703 872 9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.



Susan W Berman

Primary Examiner

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SB  
11/4/02